

XXX. *List of Butterflies collected in Chili by Thomas Edmonds, Esq.* By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

[Read September 7th, 1881.]

PLATE XXI.

THE following is an account of a very interesting series of Diurnal Lepidoptera from Chili; particularly instructive from the fact that it contains no less than sixty-nine well-marked and one doubtful species, and therefore, being the richest collection ever brought to this country, has given me an opportunity of identifying with certainty nearly the whole of the described species, and thereby correcting the unusually numerous false identifications made by most writers on the Chilian Lepidoptera, and by myself amongst others.

I have also been able, by comparing the typical species for which distinct genera have been erected, to reduce the number of the latter.

Mr. Edmonds's notes, which accompany the collection, are exceedingly valuable.

NYMPHALIDÆ.

SATYRINÆ.

*ELINA*, Blanchard.

1. *Elina lefevrei*.

*Satyrus lefevrei*, Guérin, Voy. de la Coquille, p. 281 (1829).

*S. montrolii*, Feisthamel, Mag. Zool. ix., pl. 20 (1839).

*Lasiommata montrolii*, Westwood, Gen. Diurn. Lepid., p. 387, n. 15 (1851).

♀, *Elina montrolii*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 28, pl. 5, fig. 7 (1852).

♂, ♀, Valparaiso.

*Larva*.—"Pale brown, with longitudinal black lines; head pale brown, larger than the second segment, with two black lines and a pale spiracular line edged with

black beneath; back clouded with brown, of a shade slightly darker than that of the rest of the body; tail bifid. Full-fed in October."

*Food-plant*.—"Coligne" (*Chusquea* sp.?)

*Chrysalis*.—"Pale brown, with a few streaks and spots of black. *Imago*.—November and December."—*T. E.*

## 2. *Eliua vanessoides*.

*Eliua vanessoides*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 28, pl. 5, figs. 5, 6 (1852).

"Near Corral, province of Valdivia, in March."—*T. E.*

Only males of this species were obtained; it is said, however, to be "not uncommon."

## 3. *Eliua nemyrioides*.

♂, *Satyrus nemyrioides*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 33, pl. 2, figs. 6, 7 (1852).

♀. Slightly larger than the male, above with three small additional black ocelloid spots upon the tawny belt; secondaries with the submarginal tawny spots larger; primaries below with the basal area, as far as the discal belt, tawny instead of dark brown; only one large blind subapical ocellus upon the belt; outer border paler than in the male; secondaries altogether paler and greyer; the disc grey, no large white patch; expanse of wings, 1 inch 11 lines.

Two somewhat shattered specimens, male and female, taken in "woods below the Baths of Chillan; Valdivia, in woods, February and March, 1880."—*T. E.*

There is absolutely no reason for separating this species generically from *E. vanessoides*.

## 4. *Eliua flora*.

♂, *Satyrus flora*, Philippi, 'Linnaea Entomologica,' xiv., p. 267, n. 4 (1860).

*Hipparchia? flora*, Butler, Cat. Sat., p. 58, n. 25 (1868).

*Pedaliodes oaxes*, Butler, Cist. Ent. i., p. 25, n. 3 (1870).

*Stibomorpha tristis*, Butler (nec Guérin), Lep. Exot., p. 180, n. 3; pl. lxii., fig. 3 (1874).

*Satyrus tristis*, Reed, Monogr. Marip. Chil., pl. iii., fig. 4 (1877).

*Stibomorpha reedii*, Reed (nec Butler), l. c. explic. de las laminas, lam. iii., fig. 4 (1877).

“Common in marshes in Valdivia, February and March.”—*T. E.*

#### EPINEPHELE, *Hübner*.

##### 5. *Epinephele edmondsii*, n. s. (Pl. XXI., fig. 2).

♂. General coloration and pattern above of *Elina vanessoides*; chocolate-brown, sericeous, and tinted with golden towards the base; lower half of discoidal cell, base of median interspaces, and basal third of median nervules reddish fulvous, separated from the discal band by an oblique series of six elongated shining grey-brown spots, all notched in front, the two last placed transversely so as to form an angle at the second median branch; discal band, consisting of a large blind ocellus, black, with irregular orange iris confluent with a reddish fulvous patch across the median interspaces; fringe grey; secondaries with a large subapical discal fulvous patch; fringe grey; body smoky grey; primaries below fulvous, with cinereous borders mottled and striated with black; the discal band only separated from the ground colour by a black outline; the ocellus black, with two minute white pupils and broad lemon-yellow iris; a whitish marginal border, with slender black external edge; secondaries greyish brown, densely striated with black, the central belt scarcely darker than the ground colour, but outlined externally by a black line bounded towards the costa by snow-white scales; its form nearly as in *Elina flora*; a submarginal sinuated black line and a very slender black marginal line; pectus grey; palpi white; venter pale smoky brown; expanse of wings, 1 inch 11 lines.

“Near Baths of Chillan, on slopes of Cordilleras, in March.”—*T. E.*

##### 6. *Epinephele limonias*.

♂, *Satyrus limonias*, Philippi, Linn. Ent. xiv., p. 268, n. 6 (1860); Reed, Monogr. Marip. Chil., pl. ii., fig. 7 (1877).

♀ ? *S. janiriodes*, Blanchard, in Gay's 'Fauna Chilena,' vii., pl. 2, fig. 8 (1852).

Var. *Epinephele dryas*, Felder, Reise der Nov. Lep., iii., p. 492, n. 851 (1867).

Valparaiso and Valdivia. (See notes at end of paper).

#### 7. *Epinephele valdiviæ*.

*Epinephele valdiviæ*, Felder, Reise der Nov. Lep., iii., p. 493, n. 852 (1867).

♀, *Satyrus luctuosus*, Reed, Monogr. Marip. Chil., pl. ii., fig. 6 (1877).

♂, ♀, *Stibomorpha monachus*, Reed (nec Blanchard), l. c., fig. 5, and explic. de las laminas, lam. ii., figs. 5, 6 (1877).

Valdivia.

Easily separable from *E. monachus* by its paler coloration and the red patches above.

#### 8. *Epinephele monachus*.

*Satyrus monachus*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 35, n. 5 (1852).

*Pedaliodes lugubris*, Butler, Cist. Ent. ii., p. 25, n. 4 (1870).

*Stibomorpha monachus*, Butler, Lep. Exot., p. 179, n. 2; pl. lxii., fig. 2 (1874).

"Common in woods of Valdivia in February."—*T. E.*

This seems to be a rarer species than the preceding; it is possible that the two are confounded in Chilean collections.

#### 9. *Epinephele tristis*.

*Satyrus tristis*, Guérin, Voy. de la Coquille, p. 281 (1832).

*Argynnis tristis*, Guérin, l. c. Atlas, Ins. pl. 15, fig. 5 (1832).

"Central provinces; very common from November to January."—*T. E.*

Much confusion has arisen respecting this species, for which, I believe, I am principally responsible; the true *E. tristis*, as represented by M. Guérin, is an insect rather smaller than *Elina flora*, and without the tawny



reddish spots on the upper surface of the wings; it is perhaps only a large race of *E. coctei* of the same author, but has the under surface more vividly coloured, especially in some examples; immediately beyond and touching the projecting middle portion of the central belt on the under surface of the secondaries is a large, somewhat triangular, buff-yellow spot (best seen on female specimens), and the costal portion of this belt is bounded externally by a pale buff or bluish grey spot: these characters are described by Guérin thus:—"Les postérieures ont au milieu une ligne d'un blanc jaunâtre, très-sinueuse, dentée inférieurement, se terminant plus haut que le milieu en une assez grande tache jaunâtre et triangulaire; il y a à la côte, et dans le prolongement de cette ligne blanche, une assez grande tache de la même couleur." This part of the description misled me into supposing that *Elina flora* was intended, I having at that time seen no examples allied to *E. coctei* which showed a trace of such markings as were here described.

The figure by M. Guérin agrees well with the specimens obtained by Mr. Edmonds, and which have, I believe, been regarded in Chili as slight varieties of *E. pales*, to which the species is nearly allied.

As M. Guérin hints, the spots or patches of pale colour form part of the sinuous pale edging of the central belt; the white dots on the pale discal area beyond are very variable in number, frequently disappearing altogether.

The species has what I take to be a rare variety in which the pale markings are wholly wanting from the under surface, and the ground colour of the secondaries is of a sericeous pale smoky brown colour, slightly washed with grey in the female; the central belt and outer border are of a darker brown colour, as usual, and do not differ in form from those of typical examples; two examples were in the general series, and a second pair from "Near La Union, in the province of Valdivia," was subsequently forwarded to me.

#### 10. *Epinephele coctei*.

♂, *Satyrus coctei*, Guérin, Voy. de la Coquille, p. 281 (1832); Mag. de Zool. Ins., pl. 11 (1839).

*Erebia coctei*, Westwood, Gen. Diurn. Lepid., p. 380, n. 52 (1851).

*Epinephele coctei*, Butler, Cat. Sat., p. 68, n. 17 (1868).

♀, Reed, Monogr. Marip. Chil., expl. de las laminas, lam. iii., fig. 3 (1877).

*Satyrus tragiscus*, Reed, *l. c.*, pl. iii., fig. 3 (1877).

"Talcahuano, Chili, in beginning of February."—*T. E.*

I think it extremely probable that this is only a dwarfed form of the preceding; the coloration of the under surface is very similar to that of the variety of *E. tristis* described above.

#### 11. *Epinephele pales*.

*Satyrus pales*, Philippi, Linn. Ent. xiv., p. 268, n. 5 (1860).

Var. *Satyrus janiriodes*, Blanchard (nec Herr.-Sch.), Gay's 'Fauna Chilena,' vii., p. 33, n. 1, but not of the plates (1852).

*Epinephele blanchardi*, Kirby, Syn. Cat. Diurn. Lep., p. 78 (1871).

♀, *Satyrus coctei*, ♂, Reed, Monogr. Marip. Chil., pl. iii., fig. 1 (1877).

"Near La Union, Valdivia."—*T. E.*

The typical *E. pales* is a darker insect than most examples of the species; the latter agree more nearly with Blanchard's description. As Mr. Hewitson used to say, "M. Blanchard has confounded three distinct species under one name"; his supposition, however, that one of these was a *Hesperiid*, which led Mr. Kirby to incorporate it with the *Hesperiidæ*, at p. 607 of his Catalogue, was incorrect.

#### NEOMÆNAS, Wallengren.

This genus principally differs from *Epinephele* in the absence of the oblique band of raised sericeous scales on the primaries of the males.

#### 12. *Neomænas cænonymphina*, n. s. (Pl. XXI., fig. 4).

♂. Form and coloration above of *Epinephele pales*, but without the sericeous band on the primaries; primaries below also very like *E. pales*, tawny with greyish brown borders; the costal border narrow; an angular blackish ferruginous discal line, its upper extremity arched so as to encircle the subapical ocellus,

which is black, with yellow iris, and usually two but sometimes only one white pupil; outer border bounded internally by a zigzag black line; fringe spotted with pale buff; secondaries with the basal half chocolate-brown, bounded externally by an oblique irregularly angulated pale yellow line; disc yellowish, striated with red-brown, a small reddish brown costal nebula, and a small unipupillate black ocellus on the second median interspace; outer border almost entirely dark brown, and limited internally by an irregularly zigzag black-brown line; fringe tipped with pale brown; pectus black; legs and venter pale brown; expanse of wings, 1 inch 6 lines.

♀. Larger than the male, paler and redder, the disc of all the wings above ferruginous; primaries with a well-defined blind blackish subapical ocellus; disc below paler than in the male; the edge of the basal half of secondaries white instead of yellow, and twice as broad as in the male; the ocellus wanting; expanse of wings, 1 inch 7 lines.

“Local at Valparaiso; in December and beginning of January, 1880, among ‘coligne.’”—*T. E.*

This species, on the under surface, has much the aspect of *Cænonympha dorus*.

13. *Neomœnas fractifascia*, n. s. (Pl. XXI., fig. 3).

♂. Above fuliginous-brown; primaries with a reddish tawny nebula, partly within and partly below the cell, cut by the first median branch; a large black blind subapical ocellus, partly enclosed in an abbreviated tawny discal band, divided by the nervures, and terminating at the first median branch; secondaries with an abbreviated discal band, clouded with brown below the second median branch, and only extending upwards to the radial nervure, enclosing a small blackish spot on the second median interspace; base of wings clothed as usual with golden brown hairs; body blackish; primaries below tawny, the disc occupied by a broad paler belt, enclosing a large black subapical spot with a small white pupil; outer border brown, excepting at the apex, which is tawny; secondaries testaceous varied with white; the interno-basal area broadly blackish, its inferior portion confluent with a broad oblique blackish-edged smoky

brown band, which is elbowed and more or less completely divided at the extremity of the median vein and between its two branches; four unequal indistinctly pupillated black spots in pairs upon the disc, two towards the costa and two on the median interspaces, the last much the largest; outer border dark brown; pectus black; palpi white; legs and venter brown; expanse of wings, 1 inch 9 lines.

♀. Rather larger and paler than the male; the primaries above all reddish tawny, with the exception of the borders, which are brown, and the black subapical ocellus, which has a small whitish pupil; secondaries with the discal tawny band completed, and not clouded with brown, the black spot larger; wings and body below paler than in the male, the outer borders varied with white; otherwise as in the male; expanse of wings, 1 inch 10 lines.

"In the woods near the Baths of Chillan, on slopes of the Cordilleras, in March, 1880."—*T. E.*

Three examples, all a good deal worn, but perfectly recognisable as belonging to a very distinct new species.

#### 14. *Neomænas servilia*.

♂, *Neomænas servilia*, Wallengren, in Kongl. Vet. Akad. Förhandl., p. 78 (1858); Wien. ent. Monatschr., iv., p. 36, n. 13 (1860); Eug. Resa, p. 354, pl. vi., fig. 1 (1861).

♀, *Stibomorpha decorata*, Butler, Ent. Month. Mag. x., p. 205 (1874); Lep. Exot., p. 179; pl. lxii., fig. 3 (1874).

"Not scarce near Valparaiso, and also at Cauquenes in January."—*T. E.*

#### 15. *Neomænas wallengrenii*, n. s. (Pl. XXI., fig. 5).

♂. Above dark fuliginous-brown; primaries with a black subapical spot; thorax blackish; primaries below tawny, brightest in the cell; the disc crossed by an abbreviated pale creamy yellowish band, cut by the nervures, widest above the third median branch, enclosing a large black subapical ocellus with single white pupil, and iris edged with greyish of the same tint as the discal band; all the borders of these wings pale brown,

the internal border being wider and darker than the others; secondaries with the basi-abdominal two-thirds smoky brown, divided by white nervures, and crossed by a broad oblique pale buff band from the costa to the median vein, so as almost to fill the discoidal cell; the outer edge of this area is oblique, and very slightly arched from the costa to the second median branch, and from thence to anal angle is zigzag, the whole length bordered externally by a diffused white stripe fading into the discal coloration; disc pale testaceous, crossed by white veins; a small elongate black dot on the first median interspace; outer border regularly smoky brown; pectus black; palpi grey; tarsi reddish brown; venter greyish; expanse of wings, 1 inch 8 lines.

♀. Larger than the male, paler, with bronze-green reflections; the primaries above with the discoidal cell, two oval spots on the radial interspaces touching the inner edge of the subapical black spot, a narrow abbreviated streak below the latter, and a large oval spot on the first median interspace, ferruginous; subapical spot much larger than in the male; secondaries darker, with three large unequal discal ferruginous spots, of which the central one is twice as long as the others; under surface altogether clearer and more brightly coloured than in the male; primaries with the borders paler, varied with creamy whitish; subapical ocellus larger and bipupillated, but with no distinct iris; secondaries altogether more creamy in tint, the darker portions being more olive, the margins pearly white like the veins; two oval blind ocelli with very narrow yellowish iris on a pale greyish olive nebula, one on the second subcostal interspace, and the other, which is larger, on the first median interspace; body below clothed with white hairs; expanse of wings, 1 inch 9 lines.

“Woods below the Baths of Chillan, March, 1880.”

—T. E.

Three slightly worn examples of this very fine species.

#### ARGYROPHENGA, *Doubleday*.

16. *Argyrophenga edmondsii*, n. s. (Pl. XXI., fig. 6).

Wings above smoky brown, with bronzy reflections; primaries with the discoidal cell rust-red, the disc from

beyond and below the cell to its second-third suffused with laky-ferruginous; this coloration, however, is absent from above the upper radial vein, and from the second-third of the second median interspace; a large indistinct blackish subapical spot; secondaries with the end of the cell and the greater part of the radial interspace bright ferruginous; three elongate pyriform longitudinal discal streaks, two on the first and second median branches, the third on the internervular fold of the interno-median interspace; fringe pale; body blackish; primaries below tawny orange; costa yellowish; external border pale greyish brown, changing to yellowish towards apex; a large black subapical ocellus with single white pupil and yellow iris partly surrounded by a dusky zone; secondaries olive-brown; a broad slightly irregular longitudinal sulphur-yellow band from the base, through the cell, to the outer border, also six other abbreviated yellow streaks upon the veins, two on the costal, the others on the median and abdominal areas; costal border broadly yellowish; abdominal and external borders cinereous; a submarginal series of olivaceous patches enclosing fusiform spots, the last two of which are of unequal size and black; pectus black; palpi white above, with brown fringe and black lateral line; legs pale brown; venter blackish, irrorated with pale scales at the sides; expanse of wings, 1 inch 7 lines.

“Woods below the Baths of Chillan, March, 1880.”  
—*T. E.*

I have named this very remarkable species after its discoverer. In form it agrees with *Argyrophorus*, but the larger discoidal cell of the secondaries necessitates its being placed in *Argyrophenga*, a group the type of which, although hitherto known only from New Zealand, bears some resemblance to this Chilean species in the pattern of the under surface.

17. *Argyrophenga simplex*, n. s.

Wings above uniformly fuliginous-brown; body blackish; primaries below tawny orange, with narrow costal and broad external and internal pale olive-brown borders; a large subapical black ocellus, minutely bipupillated with white, and with whitish iris; secondaries pale olive-brown; interno-basal area blackish, with green reflections; a small patch of tawny orange on the upper



half of the cell; a lunate snow-white spot upon the radial interspace, and lying against the outer edge of the third median branch; pectus black, clothed with greenish grey hair; palpi whitish, with a slender black lateral line; legs brownish; venter sordid white; expanse of wings, 1 inch 7 lines.

“Mountains above the Baths of Chillan, March, 1880; scarce and difficult to capture.”—*T. E.*

ARGYROPHORUS, *Blanchard.*

18. *Argyrophorus argenteus.*

*Argyrophorus argenteus*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 30 (1852).

*Chionobas argenteus*, Blanchard, *l. c.*, pl. 2, figs. 9—11.

“Near La Union, province Valdivia, end of January and beginning of February, 1880; very local in the Cordilleras of the central provinces, at an elevation of 6000 to 7000 feet; plentiful where it occurs, but very difficult to catch in consequence of its extreme swiftness and shyness, and the difficult nature of the ground.”—*T. E.*

COSMOSATYRUS, *Felder.*

19. *Cosmosatyrus leptoneuroides.*

♀, *Cosmosatyrus leptoneuroides*, Felder, *Reise der Nov. Lep.*, iii., p. 495, n. 857 (1867).

♂, *Satyrus antarctia*, Reed, *Monogr. Marip. Chil.*, pl. ii., fig. 4 (1877).

*Tetraphlebia germainii*, Reed (nec Felder); *l. c.*, explic. de las laminas, lam. ii., fig. 4 (1877).

“Local and rather scarce near Maintenes on the hacienda at foot of the Cordilleras of Cauquenes, in January.”—*T. E.*

The succeeding species is the mountain form of this; the true *Tetraphlebia germainii* is evidently the “*Satyrus*” or “*Epinephele promaucana*” of Reed, the female of which is in the British Museum collection.

20. *Cosmosatyrus plumbeolus.*

*Tetraphlebia*? *plumbeola*, Butler, *Cat. Sat.*, p. 95; pl. ii., fig. 11 (1868).

“Among the mountains at an elevation of about 6000 feet, in January.”—*T. E.*



*C. plumbeolus* is a race of *C. leptoneuroides*, occurring at a higher level, and distinguished by its slightly inferior size, slightly duller coloration, the absence of the pale border to the central belt on the under surface of the secondaries, the absence of white veins (although the short white *dashes* remain upon the female), and the tendency to obscurity of the ocelli and the white spots between them in the male, though in some examples they are sharply defined.

#### HIPPARCHIA, *Fabricius*.

##### 21. *Hipparchia chiliensis*.

*Satyrus chiliensis*, Guérin, Voy. de la Coquille, p. 280 ; Atlas, Ins., pl. 16, figs. 4, 5 (1832).

*Erebia chiliensis*, Westwood, Gen. Diurn. Lepid., p. 380, n. 53 (1851).

*E. chilensis* (sic), Doubleday, List. Lep. Brit. Mus., i., p. 127 (1844) ; Blanchard (1852).

*Hipparchia chiliensis*, Butler, Cat. Sat., p. 58, n. 24 (1868).

♂, *Satyrus tristis* ?, Blanchard, in Gay's 'Fauna Chilena,' pl. 3, fig. 1 (1852).

*Stibomorpha reedii*, Butler, Lep. Exot., p. 180 (1874).

"Common near Valparaiso in November and December."—*T. E.*

#### FAUNULA, *Felder*.

##### 22. *Faunula stelligera*, n. s. (Pl. XXI., fig. 10).

General appearance of an *Erebia* ; pattern and coloration approaching *Neosatyrus ambiorix* ; wings above dark rich olive-brown ; primaries with three more or less defined deep ferruginous streaks on the median and lower radial interspaces (in some male examples only the central and largest one is present) ; fringe dark grey, with a slender pale basal line ; secondaries with three discal hastate dark ferruginous spots on the radial and median interspaces, and sometimes a fourth minute spot of the same colour nearer to the anal angle ; fringe as in primaries ; body blackish ; wings below paler, the primaries with the basal two-thirds, excepting at the borders, dark ferruginous, sometimes crossed just beyond the cell by an arched and slightly undulated purplish brown line ; remainder of the ground colour pale

olive-brown, speckled with dark brown; a large bipupillated black subapical ocellus with rather narrow yellow iris; secondaries pale olive-brown, speckled with blackish; an acutely zigzag arched black line beyond the cell, beyond which the wing is rather paler, and crossed by whitish veins (although not conspicuously as in *Cosmosatyrus leptoneuroides*); an arched discal series of seven well-defined black-edged snow-white spots; body brown; expanse of wings, 1 inch 10 lines.

“Very local, but plentiful in certain spots on the mountains above the Baths of Chillan in March.”—*T. E.*

The sexes of this species are alike; the only difference in the female being the slightly superior size of the ferruginous markings above and of the white spots below.

#### NEOSATYRUS, Wallengren.

##### 23. *Neosatyrus ambiorix*.

*Neosatyrus ambiorix*, Wallengr., Wien. ent. Monatschr., iv., p. 36, n. 14 (1860); Eug. Resa, pl. vi., fig. 2 (1861).

“Common among ‘coligne’ (arborescent grass), Valparaíso; October—December.”—*T. E.*

The orange patch on the upper surface of the primaries is larger in the females than in some of the males; in the latter, however, it varies considerably, sometimes almost disappearing; the female, on the under surface, differs from the male in having two additional ocelli contiguous to and below the subapical one.

##### 24. *Neosatyrus minimus*, n. s. (Pl. XXI., fig. 7).

♂. Allied to the preceding, but of only half the size; the wings of a paler and more olivaceous-brown, with vivid greenish reflections, which in certain lights change to cupreous; the base of the costa and the discoidal cell obscurely sprinkled with ferruginous atoms; thorax dark grey, the tegulæ fringed at the extremities with ferruginous; abdomen brown; wings below olive-brown; primaries with a large ferruginous patch covering the greater part of the cell and the area immediately beyond it; a large subapical bipupillated black ocellus with orange iris (and in the type a second extremely minute ocellus near the external angle); an ill-defined submarginal

dark brown line; secondaries with five snow-white dots in an arched series between the second subcostal branch and the submedian vein, the third and fourth forming the pupils of two large black ocelli, with extremely narrow and indistinct greyish iris; an ill-defined dusky submarginal line; body below black; legs grey; expanse of wings, 1 inch.

Chili.

I believe the exact locality for this to be "Las Zonas, near Valparaiso," and the date of capture "beginning of October, 1879," but the number unfortunately got detached from its place in the box. It is always safer to affix a number to the pin which holds the specimen.

25. *Neosatyrus boisduvalii*.

*Erebia boisduvalii*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 32, n. 2 (1852).

*Hipparchia* ? *boisduvalii*, Butler, Cat. Sat., p. 58, n. 26 (1868).

*Homœonympha pusilla*, Felder, Reise der Nov. Lep., iii., p. 487, n. 841 (1867).

Chili. (See Notes at end of paper).

A single example was obtained by Mr. Edmonds, and as it agrees well both with Blanchard's and Felder's descriptions, I conclude that these species are identical.

26. *Neosatyrus ochreivittatus*, n. s.

Above chocolate-brown; primaries with three discal reddish ferruginous dashes forming a large patch, divided by the nervures upon the lower radial and median interspaces; the uppermost dash interrupted by a double blackish spot with reddish ferruginous iris; secondaries with two rounded reddish ferruginous spots on the median interspaces; abdomen dark grey; primaries below reddish ferruginous, the borders brown; apical area densely irrorated with whitish cinereous scales speckled with black; a large subapical oval black ocellus with two white pupils and golden yellow iris; secondaries olive-brown, crossed just beyond the middle by a pale ochreous band; basal area, excepting towards the costa, washed with lilacine as far as the ochreous band; outer margin slaty grey; body smoky brown, with

pale brown legs; antennæ below pale yellow; expanse of wings, 1 inch 6 lines.

Chili. (See notes at end of paper).

Seems allied to Reed's *S. chiliensis* (the *Neosatyrus ambiorix* of his 'Explicacion de las laminas,' but not of Wallengren); the coloration of the under surface also reminds one of his *S. thelxiope*, but the latter (which he subsequently calls *S. pales*, female), is possibly the female of *N. reedii*.

27. *Neosatyrus violaceus*, n. s. (Pl. XXI., fig. 8).

Near to the preceding, but differing in the coloration of the under surface; the primaries below darker throughout; the secondaries also darker, and with a lilac, instead of dull ochreous, band beyond the middle; five more or less distinct white points nearly half-way between the band and the outer margin; otherwise as in the preceding species; expanse of wings, 1 inch 6 lines.

"Woods near Chillan in March, 1880."

I have examined five examples of this species; it and the preceding species resemble *Tetraphlebia germainii* in the pattern of the upper surface, although quite different in form and size.

28. *Neosatyrus reedii*, n. s. (Pl. XXI., fig. 9).

? *Satyrus janiriodes*, male, Blanchard, in Gay's 'Fauna Chilena,' pl. iii., fig. 2 (1852).

Wings above rich olive-brown, with golden cupreous reflections; primaries with dusky external border and a few ferruginous scales upon the disc; fringe grey; body blackish; primaries below tawny orange, deepest towards the base, the costal and inner borders brown; external border broadly ferruginous, with slightly darker striations; a small round black subapical ocellus with one minute pupil, and an orange iris with incomplete dusky zone; secondaries rich cupreous-brown, sericeous, crossed near the base by an indistinct angular darker line, bordered internally by a few grey scales; an angulated and undulated line just beyond the cell, bounded externally by a diffused lilacine grey streak, which is expanded and widely dispersed upon the costal area almost to

the apical margin; external area striated with dark brown; interno-basal area blackish; pectus blackish; legs and venter greyish brown; expanse of wings, 1 inch 7 lines.

From Reed's collection; locality uncertain.

I believe this to be the species intended by Blanchard's figure: the other figure (*S. tristis* of Blanchard), for which I proposed the name of *Stibomorpha reedii*, but which I did not describe (for want of a specimen corresponding with the representation), is probably the male of *Hipparchia chilensis*.

The present species is apparently allied to the "*Satyrus nycteropus*" of Reed (pl. iii., fig. 2), subsequently incorrectly identified by that author with *S. boisduvalii*; *S. nycteropus* is, however, represented with a large bipupillated ocellus on the under surface, and with the wings more produced than in *Neosatyrus reedii*: in these respects it more nearly agrees with *Neomænas cænonymphina*, from which it however differs in the darker coloration of the disc of the primaries, and the smoky brown, instead of testaceous, coloration of the disc of the secondaries; the undulation of the post-median line on these wings is also quite unlike *N. cænonymphina*, and similar to that of *N. reedii*.

## 29. *Neosatyrus humilis*.

*Stygnus humilis*, Felder, Reise der Nov. Lep., iii., p. 489, n. 844 (1867).

"Common in woods in Valdivia."—*T. E.*

This is the *Neosatyrus ambiorix* of Reed's description and figures, but not of Wallengren; Mr. Edmonds had evidently identified it correctly, for he notes it as a "small butterfly, blackish brown on both sides, almost without markings."

## NYMPHALINÆ.

### EUPTOIETA, *Doubleday*.

## 30. *Euptoieta hortensia*.

*Argynnis hortensia*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 24, n. 5 (1852).

*A. hortensis* (sic), Reed, Monogr. Marip. Chil., pl. i., fig. 7 (1877).

*Argynnis valdiviana*, Philippi, Ann. Univ. de Chile, p. 1088 (1859).

"Near the Baths of Cauquenes; common but local in January; occurs sparingly also at Salto, near Valparaiso, in January."—*T. E.*

Mr. Reed erroneously quotes *E. hegesia* and *E. claudia* as synonyms of this species; although nearly allied and probably only geographical races of one type, they have as much claim to specific rank as have any other constant forms: constancy, and not amount of difference, constitutes a species.

BRENTHIS, Hübner.

31. *Brenthis cytheris*.

♂, *Papilio cytheris*, Drury, Ill. Exot. Ent., ii., pl. 4, figs. 3, 4 (1773).

Var. *Argynnis siga*, Hübner, Zutr. Exot. Schmett., figs. 677, 678 (1832).

*Argynnis anna*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 23, n. 2 (1852); Reed, Monogr. Marip. Chil., pl. i., fig. 6 (1877).

♀ ? *Argynnis montana*, Reed, l. c., fig. 8 (1877).

Valparaiso and Valdivia. (See notes at end of paper).

Owing to the resemblance which the female of this species bears to *A. lathonioides* (the sexes of which are alike) great confusion has arisen respecting it; in Chili this has been complicated in consequence of authors there not examining Drury's figure, and therefore retaining the synonym *A. anna* as the name of the species.

As Reed himself says, "La lámina que ahora doi de esta especie no es buena," there can be little doubt that his figure is intended for *B. cytheris*, female.

In a paper in the 'Scientific Proceedings of the Royal Dublin Society' for 1879, p. 45, Mr. Kirby says:—"Hübner's figure of *A. siga*, and Reed's of *A. anna*, represent the male exactly; Drury's figure is too dark. The species which Reed (and probably Gay) describes as *A. cytheris*, Drury, is distinct, and must retain the name of *A. montana*, under which Reed originally figured it."

In my account of the Lepidoptera obtained during the "Survey of H.M.S. 'Alert'" in the 'Proceedings of the



Zoological Society' for the present year (p. 83), I have noted that "one of the females agrees very fairly with Blanchard's figure of *A. lathonioides*," and I have then seconded Mr. Kirby's remark respecting *A. montana*.

The female, which most resembles *A. lathonioides*, differs in the much more vivid coloration of the under surface, and the far less angular series of spots across the secondaries; the spots of the discal series are also more inclined to ocellation, a female example in the Museum having the whole of them pupillated with  $\Lambda$ -shaped white markings.

Mr. Kirby's remark that "Drury's figure is too dark" is due to his not having examined a sufficient series of specimens. Drury's type was from the Straits of Magellan, and an example in the British Museum from Port Famine agrees well with it; none of the Magellan males are quite so brilliantly coloured as the Chilian variety *B. siga*.

### 32. *Brenthis lathonioides*.

*Argynnis lathonioides*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 22; pl. 2, figs. 1, 2 (1852).

"Cordilleras of the hacienda of Cauquenes, at an elevation of about 6000 feet; January. Rather scarce."—*T. E.*

### 33. *Brenthis modesta*.

*Argynnis modesta*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 24; pl. 2, figs. 3, 4 (1852).

"Cordilleras of the hacienda of Cauquenes, 8000 to 10,000 feet; January."—*T. E.*

## PYRAMEIS, Hübner.

### 34. *Pyrameis carye*.

*Hamadryas decora carye*, Hübner, Samml. Exot. Schmett., i., pl. 45 (1806).

*Vanessa charie*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 26; pl. 2, fig. 5 (1852).

"Abundant throughout the country from August to May; larva feeds on *Malva* and nettles."—*T. E.*



35. *Pyrameis terpsichore*.

*Vanessa terpsichore*, Philippi, Linn. Ent., xiv., p. 266, n. 3 (1860).

“Not so common as the preceding species, but found in all parts; October to April.”—*T. E.*

LYCÆNIDÆ.

LYCÆNA, *Fabricius*.

36. *Lycæna adonis*.

*Papilio adonis*, Denis, Wien. Verz., p. 184, n. 11 (1776).

♀, *Cupido improba*, Reed, Monogr. Marip. Chil., p. 67 (1877).

——— ?

An example was given to Mr. Edmonds by Mr. Reed, who, at the end of his description, remarks—“Hai dos ejemplares de esta especie en la coleccion del Museo Nacional; ignoro donde fueron cojidos.” There can be no doubt that the examples were taken in Europe, as there is absolutely no character to separate the specimen which I have seen from *L. adonis*, female.

SCOLITANTIDES, *Hübner*.

37. *Scolitantides collina*.

♂, *Lycæna collina*, Philippi, Linn. Ent., xiv., p. 270 n. 9 (1860).

*Lycæna lyrnessa*, Hewitson, Ent. Month. Mag., xi., p. 107 (1874).

“Common in the Cordilleras in January, and near the Baths of Chillan in March.”—*T. E.*

The upper surface of the female is very similar to that of *S. chilensis*.

38. *Scolitantides chilensis*.

♀, *Lycæna chilensis*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 37; pl. 3, figs. 4a, 4b (1852).

♂, *Polyommatus atahualpa*, Wallengren, Wien. Ent. Monatschr., iv., p. 37, n. 18 (1860); Eug. Resa, p. 356 (1861).

“Very common at Valparaiso from August to January; also at Copiapo and Cauquenes in January.”—*T. E.*

The male is greyish brown above, with a submarginal series of sordid white lunate spots, and with a more or less developed orange spot on the primaries at the end of the cell: both sexes vary in this last character, and in the depth of colour on the under surface; the species appears to be very common.

LAMPIDES, *Hübner*.

39. *Lampides trigemmatatus*, n. s.

Allied to *L. telicanus* of Europe and *L. cassius* of Tropical America; nearest to the former, from which it differs as follows:—Size of Spanish examples, but the female with barely a trace of blue colouring, excepting at the base; the discal spots not distinctly visible through the wings; ground colour below uniformly dove-brown, the white stripes purer, of half the width, and sharply defined; the lunulate discal white stripe of the secondaries replaced by a series of contiguous sagittate spots; three subanal metallic-green pupilled ocelli instead of two; expanse of wings, 1 inch.

“Copiapo, North of Chili; abundant in January.”—*T. E.*

The much darker coloration of the under surface, with the more slender and whiter lines and the three metallic spots on the secondaries, give this species a totally different aspect from that of *L. telicanus*, and, excepting in the last-mentioned character, more like that of the *L. elpis* group.

CHRY SOPHANUS, *Hübner*.

40. *Chrysophanus bicolor*.

*Lycæna* ? *bicolor*, Philippi, Linn. Ent., xiv., p. 269, n. 8 (1860).

♀, *Thecla quadrimaculata*, ♂, Hewitson, Ent. Month. Mag., xi., p. 106 (1874).

Chili.

This is perfectly distinct from the following; not only differing uniformly in size, but the form of the band across the under surface of the secondaries is different, and the orange spot or patch on the upper surface of the primaries is larger.

41. *Chrysophanus quadrimaculata*.

♀, *Thecla quadrimaculata*, ♀, Hewitson, Ent. Month. Mag., xi., p. 106 (1874).

Male differs from the female in having a large black sexual spot at the end of the cell of primaries; only three small discal orange spots on these wings; secondaries with the orange patch narrower, and divided into four spots by the nervures; expanse of wings, 1 inch 2 lines.

No exact locality noted. "August to October and January; double-brooded; common."—*T. E.*

STRYMON, *Hübner*.

42. *Strymon americensis*.

*Thecla americensis*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 38, n. 1 (1852).

"Common, but not abundant, at Valparaiso; October to December; scarce at Valdivia in February, and at Cauquenes in January."—*T. E.*

PAPILIONIDÆ.

PIERINÆ.

HELIOCHROMA, *Butler*.

43. *Heliochroma leucothea*.

*Papilio* (*D.*) *leucothea*, Molina, Saggio sulla Storia Naturale del Chili, libr. iv., p. 347 (1782).

*Pieris gayi*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 10, n. 1, pl. 1, fig. 4 (1852).

"Common at Valparaiso from end of September to December, and more scarce in February and March; abundant in the valleys of the Cordilleras of the hacienda of Cauquenes at the end of January."—*T. E.*

I have to thank Mr. Kirby for calling my attention to Molina's work; although the description is only two lines in length, the fact that it is noted as a *Danaus* at once fixes it as one of the *Pierinæ*; and, so much being decided, the description is sufficiently long to fix the identity of the species.

*COLIAS, Fabricius.*44. *Colias vauthieri*.

♀, *Colias vauthieri*, Guérin, Voy. de la Coquille, pl. 15, fig. 2 (1829).

♂, ♀, Chili; everywhere. (See Notes at end of paper).

The male, like the female, is rather larger than that sex of the closely allied *C. rutilans*; the orange colouring is slightly redder, and the outer border more regularly arched inwards towards the costal margin; the median veins are partly blackish on all the wings; the orange area on the primaries below is less diffused; the apex and borders of these wings, and the ground colour of the secondaries, are of a bright chrome-yellow, and the ocelloid spot on the secondaries is smaller and less elongated; expanse of wings, 2 inches.

The average size of the male *C. rutilans* is about 1 inch 9 lines; the female is of about the same size, and differs from that of *C. vauthieri* in the whiter colour of the secondaries above and the more dusky colour of these wings below. I think, therefore, we have here at least a distinct race, although the general resemblance of the two forms is so great that, were they not both already provided with distinctive names, it would be necessary to obtain stronger evidence than we at present possess before running the risk of giving a new specific title to the second form.

44a. *Colias rutilans*.

♂, *Colias rutilans*, Boisduval, Sp. Gén. Lep., p. 642, n. 9; pl. 19, fig. 3 (1836).

♂, ♀, Chili.

The insect figured as the male by Reed (Marip. Chil., lam. 1, fig. 3 (1836)) is referable to the following, of which, however, it is but a poor and unsatisfactory representation.

45. *Colias minuscula*, n. s. (Pl. XXI., fig. 11).

Smaller than *C. rutilans*; of the same colours above; the outer blackish border of the primaries in the male wide at apex, but abruptly narrow from the third median branch to the external angle; the outer border of the secondaries also very narrow; the outer border of the

primaries in the female slightly narrower, more sharply defined, and angular internally; the secondaries with the discal and marginal series of black spots indicating the outer border barely visible, excepting close to the costa; secondaries of both sexes below usually rather more dusky, and with the plum-coloured dash at the base of the median vein more prominent than in *C. rutilans*; expanse of wings—male 1 inch 7 lines, female 1 inch 8 lines.

♂, ♀, Chili. (See Notes at end of paper).

A nearly-allied species to this, but considerably larger, was obtained by Dr. Cunningham at Sandy Point, in the Straits of Magellan, and may be called *C. cunninghamii*.

#### 46. *Colias cunninghamii*, n. s.

♂. Slightly paler in colour than *C. rutilans*; the outer border of the primaries very broad at apex, and crossed by yellow veins close to the costa, abruptly narrowed from the third median branch to the external angle; costal border bright yellow; fringe golden yellow, tipped with rose-red; secondaries with the tips of the subcostal branches and the apical border black-brown; the blackish interno-basal patch on the primaries, and the broad interno-median patch on the basal half of the secondaries, decidedly paler and greener than in *C. rutilans*; apex of primaries and borders of secondaries below greener; form of primaries more acutely triangular; the female has the spots indicating the border of the primaries above smaller, and often partly obsolete, and the under surface of these wings greener; expanse of wings—male 2 inches, female 1 inch 11 lines.

Three pairs. Sandy Point (*Dr. Cunningham*).

The distinctly triangular form of the primaries, due partly to the straighter costal margin, readily marks out this as a good distinct species.

TERIAS, *Swainson*.

#### 47. *Terias chilensis*.

*Terias chilensis*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 17; pl. 1, figs. 5a, 5b (1852).

"Double-brooded; November, February, March, and April; larva in December on *Cassia*."

This is a smaller species than the allied *T. dera*, and the black apical patch is not angulated internally towards the costa, as in that insect.

CALLIDRYAS, *Boisduval*.

48. *Callidryas drya*.

*Papilio drya*, Fabricius, Syst. Ent., p. 478, n. 153 (1775).

*Callidryas drya*, Butler, Lep. Exot., p. 61; pl. xxiii., figs. 5—8 (1871).

*C. amphitrite*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 20; pl. 5, figs. 1, 2 (1852).

"Common at Valparaiso, and I have taken it in the Cordilleras of the central provinces; it is found also at Copiapo, in the North. Appears in November, December, March, and April; worn specimens in September, and in fact throughout the year. Larva on *Cassia*, end of December and beginning of January; probably double-brooded."—*T. E.*

TATOCHILA, *Butler*.

49. *Tatochila blanchardii*. (Pl. XXI., fig. 15).

♀, *Pieris theodice*, Blanchard (nec Boisduval), in Gay's 'Fauna Chilena,' vii., p. 12: pl. 1, figs. 1a, 1b (1852).

♂, ♀, *P. autodice*, Blanchard (nec Hübner), *l. c.*, p. 11 (1852).

Common in Chili; male and female, Valparaiso. (See notes at end of paper).

The "*Pieris theodice*" of Boisduval is a species evidently belonging to a different genus, and coming from "Bourou" (not "Peru," as it has been quoted); the only excuse for placing it among these Chilean *Pierine* is to be found in a note at the end of Boisduval's description—"This pretty species, approaching, by the under surface, the *autodice* of Chili, is found at Bourou"; but an examination of the description of the upper surface ought at once to have prevented M. Blanchard from imagining that there could be any real affinity between the two species; the words "*anticis serie postica duplici macularum albarum*" representing a character not found in any of the species of *Tatochila*.

The example figured by Blanchard is a heavily-marked female, the more typical form being that erroneously described by him as "*P. autodice*."

50. *Tatochila demodice*.

*Pieris demodice*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 13 (1852).

"I have found it commonly at Valparaiso, Chillan, and Valdivia; November to April; probably double-brooded."—*T. E.*

I much doubt the identity of this species with the smaller form found in the Magellan Straits. I think it more probable that the latter is the "*Pieris microdice*" of Blanchard, and that the "*posticis maris immaculatis*" of his description is an individual variation from the commoner type of male which has a series of small black spots, as in the Chilean *T. demodice*; it is hardly likely that the common Magellan species would have remained unnoticed until the appearance of Reed's pamphlet, whilst a form, so rare that no recent collector has come across it, should be known to M. Blanchard.

51. *Tatochila autodice*.

♂, ♀, *Synchloe autodice*, Hübner, Samml. Exot. Schmett., ii., pl. 127, figs. 1—4 (1816—36).

♀, *Pontia mercedis*, Eschscholtz, Kotzebue's Reise, iii., p. 215; pl. 9, figs. 22a, 22b (1821).

*Pieris polydice*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 12 (1852).

"Common at Valparaiso; also in the Cordilleras, and in the province of Valdivia; November to April; probably double-brooded."—*T. E.*

The three preceding species probably represent the whole of the Chilean species of this genus.

The following description of the larva of *T. theodice* of Reed, and therefore most likely of Blanchard (= *T. blanchardii*) is given by Mr. Edmonds:—Grey, with longitudinal yellow stripes and black and red dots. Head grey, and clothed with very fine and short hairs; body grey, with broad yellow subdorsal lines; lateral



rows of orange-red dots, two on each side of each segment, and with raised black dots thinly scattered over the whole body, each dot emitting a very short and fine hair; claspers and under side dull greenish yellow, with minute black dots; prolegs black. Food-plant, *Tropaeolum*. Larva full-fed by the end of November. Valparaíso."

#### PAPILIONINÆ.

##### 52. *Papilio bias*. (Pl. XXI., fig. 14).

*Papilio bias*, Roger, Bull. Soc. Linn. Bord., i. (1826).

*P. archidamas*, Boisduval, Sp. Gén. Lep., i., p. 321, n. 163 (1836); Feisthamel, Mag. Zool., ix., pl. 37 (1839).

*P. (N) psittacus* ??, Molina, Saggio sulla Storia Naturale del Chili, libr. iv., p. 347 (1782).

"Common in the neighbourhood of Valparaíso."—*T. E.*

There are two things in Molina's description which render the identification of his species with *P. bias* extremely doubtful; the first is, his speaking of it as "*Papilio Nymphalis*"; and the second, his mention of blue spots upon the upper surface of the wings. I know of no Chilean butterfly to which his description will apply.

The following is a description of the transformations of *P. bias*:—

"*Larva*.—Dark brown, studded with short orange-yellow spines. Head black and shiny; second segment with a hard black plate on the back, and on the front part, immediately behind the head, a fleshy protuberance of a yellow colour, which is erected when the larva is annoyed, and then resembles in shape the letter V; on each side of the front of the second segment there is a fleshy horn, yellow at the base and black at the tip, slightly curved forwards; the rest of the body is of a deep madder-brown colour, each segment having a short fleshy spine on each side above the spiracles, and one on each side of the back; these spines are orange-yellow, with the extreme points black; the second, third, and fourth segments have each a dull orange spot above the prolegs; prolegs and claspers black.

"Feeds on 'Oreja de Zovia' (*Aristolochia chilensis*) in October and beginning of November.

“*Chrysalis*.—Brownish grey, rarely dull green. The covering of the head is produced into a point on each side; the thorax has a high peak on the back and a smaller one on each side; the abdomen has a double row of points on the back; wing-coverings prominent. Imagines emerge erratically, some in December, some in January, February, March, April, and June, and some in the October following. Valparaiso.”—*T. E.*

# HESPERIIDÆ.

GEGENES, *Hübner*.

53. *Gegenes fusca*.

*Hesperia fusca*, Reed, Monogr. Marip. Chil., p. 81 (1877).

Chili.

One specimen (without abdomen), answering well to Reed's description; also the type from Santiago.

PYRGUS, *Hübner*.

54. *Pyrgus americanus*.

♂, *Syrichthus americanus*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 44; pl. 3, fig. 10 (1852).

♀ ? *S. notatus*, Blanchard, *l. c.*, p. 45 (1852).

*Hesperia notata* (part), Reed, Monogr. Marip. Chil., p. 80 (1877).

? Near Santiago, Reed's collection.

The number was placed in the box a little below the whole series of *Pyrgus*, but too far from them to satisfy me that it belonged to them, so that I am doubtful respecting the exact locality of the three first species in this genus. (See Notes).

Reed has evidently confounded several species under this butterfly and its female.

55. *Pyrgus fulvovittatus*, n. s.

♀. Upper surface like *P. malvæ*, female, of Europe, excepting that the central band on the secondaries is as perfect (though more sordid) as in *P. americanus*; under surface also much like *P. malvæ*, but the primaries with the inner series of white spots complete, and the

secondaries differently banded, white, with an indistinct gravel-orange band at the base, a very irregular oblique band of the same colour just beyond the basal third; an angulated dentate-sinuate band, touched here and there with dark brown across the disc, its outer edge only separated from a narrow border, also of gravel-orange (but rather paler), by a series of small lunate spots; abdominal area broadly white, slightly sordid along the margin; body below snow-white; the legs and sides of venter pale pinky brown; expanse of wings, 1 inch 2 lines.

Chili.

The under surface of the secondaries is so unlike that of *P. americanus* that I have no doubt of its distinctness.

56. *Pyrgus trisignatus*.

*Scelothrix trisignatus*, Mabille, Bull. Soc. Ent. France, 1875, p. cexiv.

Chili.

One male of this very distinct species is in Mr. Edmonds's series. I can agree with Mr. Reed in his remark, "Ignoro por qué el Senor Mabille la coloca en el género *Scelothrix*."

57. *Pyrgus valdivianus*.

*Hesperia notata*, var. *valdiviana*, Reed, Monogr. Marip. Chil., p. 81 (1877).

"Valdivia, March."—*T. E.*

One male of this very distinct species, the upper surface of which resembles *P. side* of Europe; the under surface, however, is varied with olive-green; the bands of the secondaries, which are two in number, upon a sordid white ground, are of a dark olive-green colour, the outer band only separable by its dark colour from a pale olive marginal border. This species is larger than the other Chilean forms.

PAMPHILA, *Fabricius*.

58. *Pamphila fasciolata*.

♂, *Hesperia fasciolata*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 42; pl. 3, fig. 7 (1852).

♀, *Hesperia signata*, Blanchard, l. c., p. 42 (1852).

"Valparaiso, October to April; Valdivia, February; Copiapo and Cauquenes in January."—*T. E.*

59. *Pamphila fulva*.

*Hesperia fulva*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 43; pl. 3, fig. 8 (1852).

"Valparaiso, September to April; abundant."—*T. E.*

There are two forms of this species, one larger and with heavier dark markings than the other.

CYCLOPIDES, *Hübner*.

60. *Cyclopides aureipennis*.

*Syrichtus aureipennis*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 40; pl. 3, figs. 5a, 5b, and 6 (1852).

"Valdivia, in woods among the arborescent grass; February and March."—*T. E.*

This species is of the same size and structure as *C. morpheus* of Europe.

61. *Cyclopides fruticolens*, n. s. (Pl. XXI., fig. 12).

Wings above rich chocolate-brown, sericeous; primaries above with a transverse ochreous spot in the cell, a second below it at the base of the first median interspace, and a falciform discal series of five, the uppermost of which is trifold; secondaries with a cuneiform spot across the end of the cell, a smaller rounded spot between the latter and the first median branch, and a discal series, generally absent in the male, but when present consisting of only two spots, ochreous; base streaked with greenish hairs; head and thorax olivaceous, the shoulders and palpi white varied with ochreous; abdomen dark chocolate-brown, ochreous at the sides; primaries below dark brown, the internal area grey; the costal border, apical area, and spots (which are larger

than on the upper surface) ochreous; secondaries bright ochreous, with sericeous greyish brown abdominal border, crossed by a white stripe from base to outer margin; pectus white; tibiae and tarsi pale sandy brown; venter white in the centre; expanse of wings—male 1 inch 3 lines, female 1 inch 4 lines.

“Las Zonas in January, and woods near Chillan Baths in March; about cane-bushes.”—*T. E.*

*Var. tractipennis.*

♂. Wings more elongated than in the type; the secondaries with the costal margin prolonged; the yellow areas on the under surface washed with reddish testaceous; expanse of wings, 1 inch  $3\frac{1}{2}$  lines.

Same localities as the typical form.

*Var. quadrinotatus.*

♂. Primaries above with only four minute cream-coloured spots in pairs; the costal and apical areas below sandy buff; the secondaries bright buff, with the costal border sandy testaceous; the abdominal greyish area also washed with the same colour; expanse of wings, 1 inch  $2\frac{1}{2}$  lines.

“Corral, in March.”—*T. E.*

*Var. pulcher.*

♂. Wings above brilliantly shot with green; primaries with four bright ochreous dots arranged as in the preceding variety; secondaries with a cuneiform spot closing the cell; primaries below with the costal border and apical area bright gravel-orange; secondaries brilliant golden chrome-yellow; the abdominal greyish area reduced in extent, only seen as a narrow abbreviated stripe beyond the usual white stripe; expanse of wings, 1 inch  $2\frac{1}{2}$  lines.

“Corral, in March.”—*T. E.*

Mr. Edmonds also adds the following note:—“Valparaiso, January; Valdivia, February; Chillan, March; among ‘Coligne.’ The specimens from Valdivia are darker, having fewer yellow spots on upper side.”

62. *Cycloptides philippii*, n. s. (Pl. XXI., fig. 13).

Wings above dark purplish brown, with dark green reflections; primaries with ten bright ochreous spots, the first three in an oblique series just before the middle, the fourth in a line with the second within the first median interspace, the fifth to eighth in a nearly straight series across the disc, the lowest two spots of this series being small and close together upon the interno-median interspace, and the uppermost one trifid and slightly oblique, the last two spots very minute, submarginal, and placed upon the radial interspaces; fringe slaty grey, tipped with whitish; basal area sprinkled with yellow scales; secondaries with two ochreous spots beyond the middle, and two discal smaller spots on the median interspaces; the female with two very small additional subapical spots; interno-basal area clothed with greenish hairs; abdominal fringe white; fringe of outer margin as in the primaries; body greenish; the head and palpi with yellowish hairs; the collar, shoulders, and outer margins of tegulæ greenish yellow; abdomen, excepting towards the base, dark brown, with the sides ochreous; primaries below with the costal and apical areas bright ochre-yellow, the central area blackish brown, with spots as above, but larger, internal area greyish; secondaries bright ochreous-yellow, crossed from base to outer margin by two silvery white divergent stripes, one passing through the cell, the other through the interno-median interspace; fringe of all the wings silvery white, traversed beyond the middle by a grey line, and tipped with buff; palpi and pectus creamy white; legs and venter of male, excepting a central longitudinal basal streak, ochreous; the body and wings of female below distinctly paler than in the male, the body being almost wholly white; expanse of wings, 1 inch  $2\frac{1}{2}$  lines.

Same localities as typical *C. fruticolens*.

This species is allied to the preceding, though unquestionably very distinct; it also seems allied to "*Butleria sotoi*" of Reed (Marip. Chil., p. 86), of which the following is a description of the secondaries below:—"Alas posteriores por debajo morenas inclinadas a un color ceniciento con la costa maranjada i dos rayas blancas desde la base hasta el borde esterno; entre estas dos rayas hai tres puntos blancos, uno hácia el



medio i los otros dos hácia el borde esterno. Las franjas por debajo son de un color plomo." It is therefore evident that we have here again a very distinct species.

I have named this beautiful little *Hesperiid* in honour of Dr. R. A. Philippi, whose admirable descriptions of Chilian butterflies are quite a relief after the vague and unsatisfactory diagnoses of some other writers.

#### CARTEROCEPHALUS, *Lederer*.

Whether this genus is sufficiently distinct from *Cyclopidus* I will not attempt to decide ; at any rate it has little in common with the tropical New World group, to which Mr. Kirby has given the name of *Butleria*,\* and which therefore must be deprived of all the known Chilian species.

##### 63. *Carterocephalus bissexguttatus*.

*Steopes* ? (sic) *bissexguttatus*, Philippi, Linn. Ent., xiv., p. 272, n. 11 (1860).

♂, ♀. "Las Zonas, October ; about canes."—*T. E.* (See also Notes).

##### 64. *Carterocephalus flavomaculatus*.

*Syriethus flavomaculatus*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 44 ; pl. 3, figs. 9a, 9b (1852).

*Carterocephalus polyspilus*, Felder, Verh. z.-b. Ges. Wien., xii., p. 495, n. 204 (1862).

Var. *Butleria vicina*. Reed, *l. c.*, p. 88 (1877).

♀, ♀. "Las Zonas, October ; about canes."—*T. E.*

Of *C. vicina* Mr. Edmonds writes :—"I have only one specimen from Valdivia, the type taken and described by Reed." It chiefly differs in having the markings of the secondaries below suffused with yellow.

---

\* Since my enumeration of the forms in the Museum collection (*Ent. Mo. Mag.*, vii., p. 96) notes four species apart from the type quoted as Felder's, and since the latter is congeneric with typical *Carterocephalus*, the type of *Butleria* must be *C. dimidiatus*, Felder.



65. *Carterocephalus paniscoides*.

*Steropes paniscoides*, Blanchard, in Gay's 'Fauna Chilena,' vii., p. 41 (1852).

*Butleria cauquenensis*, Reed, Monogr. Marip. Chil., p. 87 (1877).

One pair. "Las Zonas, October; about canes."—*T. E.* Reed's type, Valdivia (coll. *T. Edmonds*).

In his subsequent notes Mr. Edmonds regards this as a variety of the preceding, and says:—" *B. cauquenensis*, Reed (I have the type) ? = *polyspila*, Felder, and *paniscoides*, Bl. Valleys at foot of the Cordilleras; frequents moist and marshy places in January. A variable species; all the specimens from the same localities." The differences, however, not only in pattern, but in shape, are too considerable for mere variation. I cannot for a moment question the distinctness of the two species.

66. *Carterocephalus valdivianus*.

♂, ♀, *Syrichthus valdivianus*, Philippi, Linn. Ent., xiv., p. 272, n. 12 (1860).

♀, *Carterocephalus exornatus*, Felder, Verh. z.-b. Ges. Wien., xii., p. 494, n. 203 (1862); Reise der Nov. Lep., iii., pl. 74, figs. 18, 19 (1867).

*Butleria paniscoides*, Reed (nec Blanchard), Monogr. Marip. Chil., p. 82 (1877).

Four males. "Las Zonas, October; about canes."—*T. E.* (See notes at end of paper).

THANAOs, *Boisduval*.

67. *Thanaos funeralis*.

*Nisoniades funeralis*, Scudder and Burgess, Proc. Bost. Nat. Hist. Soc., xiii., p. 293, fig. 7 (1870).

Chili.

We have this species in the Museum from Mexico, and, excepting in its slightly darker colour and longer white fringe, I see nothing to distinguish it from *T. tristis*, Bois.

The following additional notes on Chilian Butterflies were received from Mr. Edmonds too late for incorporation in the body of the paper. I have, however, retained

the order and numbering of the species so as to prevent any inconvenience which might arise therefrom:—

NYMPHALIDÆ.

SATYRINÆ.

1. *Elina lefevrei*, Guér.

“Not uncommon, but very local, near Valparaiso in November and December.”

6. *Epinephele limonias*, Phil.

“Common at Valparaiso in November and December; scarcer in Talcahuano and Valdivia in February.”

21. *Hipparchia chiliensis*, Guér.

“Usually found on high-lying and barren land, rarely in valleys; occurs in the Cordilleras of Cauquenes abundantly in January (the mountain specimens are larger and brighter than the Valparaiso ones); Talcahuano in February; Valdivia, local, in February.”

Notes on two other species, *Faunula leucoglène* of Felder, and a butterfly supposed to be *Epinephele poliozona*, are added, but as the specimens did not reach me until after the completion of the paper I cannot insert them in their natural position; the second of these, moreover, cannot be *E. poliozona*, since it is almost wholly brown below, whereas Felder distinctly says, “*Alc subtus ferrugineo-ochraceæ*,” probably indicating a species more nearly allied to my *Neomœnas cano-nymphina*, but with a blind ocellus on the under surface of the primaries.

NYMPHALINÆ.

31. *Brenthis cytheris*, Drury.

“Common, but not abundant, in gardens about Valparaiso in November, December, and January; abundant in Valdivia in February; near the Baths of Chillan in March; and found sparingly in the Cordilleras of Cauquenes at the end of January. Mountain specimens are smaller than others. Larvæ on violet in January; velvet-black, with dull red tubercles.”

PAPILIONIDÆ.

PIERINÆ.

44. *Colias vauthieri*, Guér.

“Appears to be common throughout Chili; occurs at a great elevation in the mountains, and is to be found from October to May.”

45. *Colias minuscula*, Butl.

“In August and the beginning of September only the small specimens which you will find in the collection are found (? early brood of *vauthieri* or another species)\*; the larger ones appear in October, and the small ones are not seen again until the following August.”

49. *Tatochila blanchardii*, Butl.

“Common in the Cordilleras of the central provinces at the end of January, and at Valparaiso from the end of September to April. I think there must be at least three broods.”

PAPILIONINÆ.

52. *Papilio bias*, Roger.

“I believe there is only one brood of larvæ each year, but the butterflies emerge at intervals.”

HESPERIIDÆ.

54. *Pyrgus americanus*, Blanch.

“Valparaiso, November and December, March and April; Cauquenes, January; and Chillan, March.”—*T. E.*

It is possible that more than one species is included in this note; as also in the following applied to *P. notatus* (female of *americanus*). “Valparaiso, September; scarce. Commoner at Cauquenes in January.”

---

\* Undoubtedly the latter.—A. G. B.

62a. *Cyclopides sotoi*, Reed.

Mr. Edmonds notes *Cyclopides sotoi* of Reed as "scarce near Valparaiso in December." He cannot refer to *C. philippii*, for, not only does Reed's species differ from mine in the brown colour of the under surface of the secondaries, and in having three white dots between the longitudinal stripes, but the note which follows evidently refers to my insect.\*

62. *Cyclopides philippii*, Butl.

"(Hind wings, under side, yellow, with *two* white streaks from base to outer margin), Valparaiso. I have taken a few specimens two successive years only in one spot; it appears to be very local and scarce; among 'Coligne.'"

63. *Carterocephalus bissexguttatus*, Phil.

"Valparaiso in January; Valdivia in February; Chilian Baths in March."

66. *Carterocephalus valdivianus*, Phil.

"Valdivia; common in certain marshes, but local."

The following species have also been forwarded subsequent to the completion of the paper:—

21a. *Hipparchia monticolens*, n. s. (Pl. XXI., fig. 1).

♂. Above fuliginous-brown, with cupreous reflections, which change to green in certain lights; primaries with the costal border pale sordid dust-brown; an inconspicuous subapical linear black spot, placed upon an indistinct longer linear testaceous dash, one or two shorter but similar dashes above and below it; fringe of all the wings greyish, indistinctly flecked with whitish; secondaries with a curved discal series of four tawny flecks; thorax dark brown; anal tuft and sides of abdomen pale brown; primaries below shining greyish brown,

---

\* I have since seen a specimen compared with the type of *C. sotoi*, and find that it differs as described above.

with yellowish reflections, the discoidal area covered by a large diffused tawny area; apical portion of costal area and the extremities of the last subcostal branch and radials ashy white, flecked with brown; a discal series of decreasing longitudinal pale stramineous dashes, the second and third interrupted by a large unequally geminate blind black spot; fringe, excepting at apex, brown; secondaries pale brown, transversely and irregularly streaked with black on the basal third, and crossed beyond the middle by a deeply-notched zigzag and angulated black line, bounding externally a diffused smoky brown band, and bordered by a white line along its outer edge; outer border smoky brown, bounded on each side by a slightly irregular black line; all the veins white; internervular folds pale brassy yellow between the post-median line and the border, the first, second, third, fifth, and sixth interrupted by yellow-edged fusiform blind black spots, the last of which is small and ill-formed; fringe greyish brown, flecked with white; body below greyish; expanse of wings, 2 inches.

One specimen "from mountains above the Baths of Chillan."—*T. E.*

On the under surface this species vaguely resembles *Argyrophorus williamsianus* from the Straits of Magellan.

#### 22a. *Faunula leucoglene*.

*Faunula leucoglene*, Felder, Reise der Nov. Lep., iii., p. 488, n. 843 (1867).

One specimen forwarded. "Cordilleras of Cauquenes, scarce; in January and February, at an elevation of 9000 to 10,000 feet; hard to capture on account of the difficult nature of the ground."—*T. E.*

This species proves to be of the same form and size as *F. stelligera* (ante); it is easily recognisable by the large broadly black-bordered white spot towards the apex of primaries below.

#### 28a. *Neosatyrus reedii* ? var. *fuscescens*.

Differs from typical specimens in its slightly smaller size, and in the ground colour of the primaries below being smoky brown, slightly suffused with reddish on the disc; the subapical ocellus also being only represented by

a small blind black spot. It may possibly be a distinct species, but, having only seen a single example, I prefer for the present to regard it as a variety.

"La Union, in Valdivia."—*T. E.*

Mr. Edmonds remarks that he "took a few specimens among the arborescent grass in February, all rather worn."

37a. *Scolitantides plumbea*, n. s.

♂. Allied to *S. collina*, size of *S. chilensis*; differs from *S. collina* in its shining leaden grey colouring, with broad blackish external border and veins; fringe broad, snow-white, spotted with black; below it differs in the brighter colour and black and white fringe of the primaries in the white-mottled interno-discal area, white externo-discal area, and blackish and white fringe; expanse of wings, 11 lines.

Chili. (No exact locality noted).

*S. plumbea* is noted by Mr. Edmonds as a variety of *lyrnessu* (= *collina*), but it must certainly be very distinct; with the *Lycena endymion* of Blanchard (*L. sybilla*, Kirby) it has very little in common.

---

EXPLANATION OF PLATE XXI.

---

FIG. 1.	<i>Hipparchia monticolens</i> .	.	.	.	page 434
2.	<i>Epinephele edmondsii</i> .	.	.	.	" 451
3.	<i>Neomœnas fractifascia</i> .	.	.	.	" 455
4.	" <i>cœnonymphina</i> .	.	.	.	" 454
5.	" <i>wallengrenii</i> .	.	.	.	" 456
6.	<i>Argyrophenga edmondsii</i> .	.	.	.	" 457
7.	<i>Neosatyrus minimus</i> .	.	.	.	" 461
8.	" <i>violaceus</i> .	.	.	.	" 463
9.	" <i>reedii</i> .	.	.	.	" 463
10.	<i>Faunula stelligera</i> .	.	.	.	" 460
11.	<i>Colias minuscula</i> (male).	.	.	.	" 470
12.	<i>Cyclopides fruticolens</i> .	.	.	.	" 477
13.	" <i>philippii</i> .	.	.	.	" 479
14.	<i>Papilio bias</i> (larva).	.	.	.	" 474
15.	<i>Tatochila blanchardii</i> (larva).	.	.	.	" 473